



SFUND RECORDS CTR  
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**ICF International / Laboratory Data Consultants**

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MEMORANDUM

TO: Chris Lichens, Remedial Project Manager  
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) *RF*  
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager *[Signature]*  
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041  
Technical Direction Form No.: 00105042 Amendment 5

DATE: August 14, 2007

SUBJECT: Review of Analytical Data, Tier 2

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Cenco Refinery Omega Chem
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	335392.FI.01
SDG No.:	IPK0962
Laboratory:	TestAmerica Analytical Testing Corp.
Analysis:	Hexavalent Chromium
Samples:	1 Water Sample (see Case Summary)
Collection Dates:	November 8, 2006
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: ☒ Yes ☐ No

00105042-8253/Omega/Cenco/ACE(42)/IPK0962RPT

Analyte	% Recovery	% Bias
Hexavalent chromium (MS)	3	-97
Hexavalent chromium (MSD)	0	-100

Results above the MDL are considered quantitatively uncertain. The result reported for hexavalent chromium in sample OC2-MW105-W-O-268 may be biased low. The method specifies that since the laboratory fortified blank (LFB) was within the 90-110% recovery limits, the matrix recovery deficiency is matrix related, not system related. Sample OC2-MW105-W-O-268 is considered a 'suspect matrix'.

*The matrix spike sample analysis provides information about the effect of the sample matrix on the digestion and measurement methodology.*

## TABLE 1B

### DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

- |    |   |
|----|---|
| U  | The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.   |
| J  | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.  |
| J+ | The result is an estimated quantity, but the result may be biased high.   |
| J- | The result is an estimated quantity, but the result may be biased low.  |
| R  | The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample. |
| UJ | The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.  |

## Data Validation Report

Case No.: 335392.FI.01  
SDG No.: IPK0962  
Site: Cenco Refinery Omega Chem  
Laboratory: TestAmerica Analytical Testing Corp.  
Reviewer: Stan Kott, ESAT/LDC  
Date: August 14, 2007

### I. CASE SUMMARY

#### Sample Information

Sample: OC2-MW105-W-O-268  
Concentration and Matrix: Low Concentration Water  
Analysis: Hexavalent Chromium  
SOW: EPA Method 218.6  
Collection Date: November 8, 2006  
Sample Receipt Date: November 8, 2006  
Preparation Date: November 8, 2006  
Analysis Date: November 8, 2006

#### Field QC

Field Blanks (FB): Not Provided  
Equipment Blanks (EB): Not Provided  
Background Samples (BG): Not Provided  
Field Duplicates (D1): Not Provided

#### Laboratory QC

Method Blanks: MBLK  
Associated Samples: Samples listed above  
Matrix Spike: OC2-MW105-W-O-268MS1  
Matrix Spike Duplicate: OC2-MW105-W-O-268MSD1

Analysis: Hexavalent Chromium

<u>Analyte</u>	<u>Sample Preparation Date</u>	<u>Analysis Date</u>
Hexavalent Chromium	November 8, 2006	November 8, 2006

#### Sampling Issues

None.

#### Additional Comments

**As directed by the TOM, a Tier 2 validation (i.e., review all QC results and calibrations, minus calculation check) was performed.**

The IPK0962.cvs laboratory data file was converted into Excel format and labeled "IPK0962 Reviewed.xls" to provide data review comments. Reviewer comments are highlighted in the table.

The laboratory reports results less than the method detection limit (MDL) as "ND". This was changed in the table to 0.0003U to reflect not detected at the laboratory reporting limit (RL). The changes are highlighted in the attached table.

Definitions of data qualifiers are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Methods For The Determination Of Metals In Environmental Samples*, EPA-600/4-91-010, June 1991; and
- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.3, May 1994.

## II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	<u>Parameter</u>	<u>Acceptable</u>	<u>Comment</u>
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	No	A
8.	Field Duplicate Sample Analysis	N/A	
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

## III. VALIDITY AND COMMENTS

- A. The following result is estimated and flagged "UJ" in Table 1A because the matrix spike (MS) and matrix spike duplicate (MSD) recovery results are outside laboratory QC limits.

- Hexavalent chromium in sample OC2-MW105-W-O-268

Matrix spike recovery for hexavalent chromium in QC sample OC2-MW105-W-O-268MS1 and OC2-MW105-W-O-268MSD1 did not meet the laboratory's 90-110% criterion for accuracy. The percent recovery and possible percent bias for hexavalent chromium are presented below and are based on an ideal recovery of 100%.

Case No.: 335392.FI.01

SDG NO.: IPK0962

Site: Cenco Refinery Omega Chem

SDG	FieldID	LabSampleID	SampleDate	Analyte	Result	Validity	Comment	MDL	RL	Units
IPK0962	OC2-MW105-W-0-268	IPK0962-02	11/8/2006	Chromium	0.0003U	J	A	0.0002	0.0003	MG/L
IPK0962	6K08148-BLK1	6K08148-BLK1		Chromium	0.0002			0.0002	0.0003	MG/L
IPK0962	6K08148-BS1	6K08148-BS1		Chromium	0.0498			0.0002	0.0003	MG/L
IPK0962	6K08148-MS1	6K08148-MS1		Chromium	0.0002			0.0002	0.0003	MG/L
IPK0962	6K08148-MSD1	6K08148-MSD1		Chromium	0.0002			0.0002	0.0003	MG/L